REPORT

ON THE

SANITARY CONDITION

OF THE

BOROUGH OF CAMBRIDGE,

From January 1st to December 31st, 1905,

BY

BUSHELL ANNINGSON, M.D., M.A.;

University Lecturer in Medical Jurisprudence; Late University Examiner in State Medicine; Fellow and late Member of the Council and late Member of the Board of Examiners, The Royal Sanitary Institute; Fellow and Member of the Council of Royal Institute of Public Health; For. Assoc. Mem. Soc. Française d'Hygiène; Assistant Examiner Science and Art Department, South Kensington; Associate King's College, London, &c., &c.;

MEDICAL OFFICER OF HEALTH.

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"I were better to be eaten to death with a rust than to be scoured to nothing with perpetual motion."

"*Henry IV.*," *Part II.*

"When a man's fancy gets astride on his reason, when his imagination is at cuffs with the senses, and common understanding, as well as common sense, is kicked out of doors; the first proselyte he makes is himself, and when that is once compassed, the difficulty is not so great in bringing over others; . . . ."

Swift.

"If some men died, and others did not, death would indeed be a most mortifying evil."—*Bruyère.*

"Every one must see daily instances of people who complain from mere habit of complaining; and make their friends uneasy, and strangers merry, by murmuring at evils that do not exist, and repining at grievances which they do not really feel."—*Graves.*

"It is folly for an eminent man to think of escaping censure, and a weakness to be affected with it. All the illustrious persons of antiquity, and indeed of every age in the world, have passed through this fiery persecution. There is no defence against reproach but obscurity; it is a kind of concomitant to greatness, as satires and invectives were an essential part of a Roman triumph."—*Addison.*

"Et je m'y connais, *au mouains* . . . . Je vous prie de le croire . . . . "—*Daudet*, "*Tartarin sur les Alpes.*"

"To know, to esteem, to love, and then to part,
Makes up life's tale to many a feeling heart!"

Coleridge.

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Report on Scarlet Fever Outbreak, March, 1905.
Sketch Map showing distribution of the milk and the positions of the households assailed.

I have the honour to communicate to the Cambridge Borough Council (Urban Sanitary Authority) my thirty-first Annual Report, containing the Tables of Vital Statistics with notes thereon, and abstracts of the work of the Public Health Department during the year 1905.

BUSHELL ANNINGSON.

REPORT.

I beg leave to communicate to the Cambridge Urban District Council my Annual Report for the year 1905 on "the conditions affecting health in the District and . . . the means for improving those conditions," and in addressing myself to this task I have to point out to the Council that by the "Memorandum as to Annual Reports of Medical Officers of Health," issued by the Local Government Board, October, 1905, I am directed to discuss prescribed subjects in definite order, and give information which may seem superfluous to the Council. The following extract from the Memorandum will make clear the intention of the Local Government Board :—

"As subjects concerning which the Board desire to obtain, through Annual Reports of the Medical Officer of Health, not only definite general information, but record also of particular changes of condition that may have occurred incidentally or by action of the local authority, the following deserve especially to be borne in mind :—

"Physical features and general character of the District

"House accommodation, especially for the working classes ; its adequacy and fitness for habitation. Sufficiency of open space about houses, and cleanliness of surroundings. Supervision over erection of new houses.

"Sewerage and drainage ; its sufficiency in all parts of the District. Condition of sewers and house drains. Method or methods of disposal of sewage. Localities where improvements are needed.

"Excrement disposal; system in vogue; defects (if any).

"Removal and disposal of house refuse, whether by public scavenger or occupiers, frequency and method.

"Water supply of the District or its several parts, its source (from public service or otherwise), nature (river water, well water, upland water, etc.), sufficiency, wholesomeness, and freedom (by special treatment or otherwise) from risks of pollution.

"Places over which the Council have supervision, *e.g.*, lodging-houses, slaughterhouses, bakehouses, dairies, cowsheds and milkshops, factories and workshops, and offensive trades.

"Nuisances; proceedings for their abatement; any remaining unabated.

"Methods of dealing with infectious diseases; notification; isolation hospital accommodation and its sufficiency; disinfection.

"With regard to such points it should be remembered that these reports are for the information of the Board and of the County Council as well as of the Council of the District, and that a statement of the local circumstances and a history of local sanitary questions, which may seem superfluous for the latter, may often be needed by the former bodies."

Vital Statistics.

Vital Statistics. Estimate of Population.

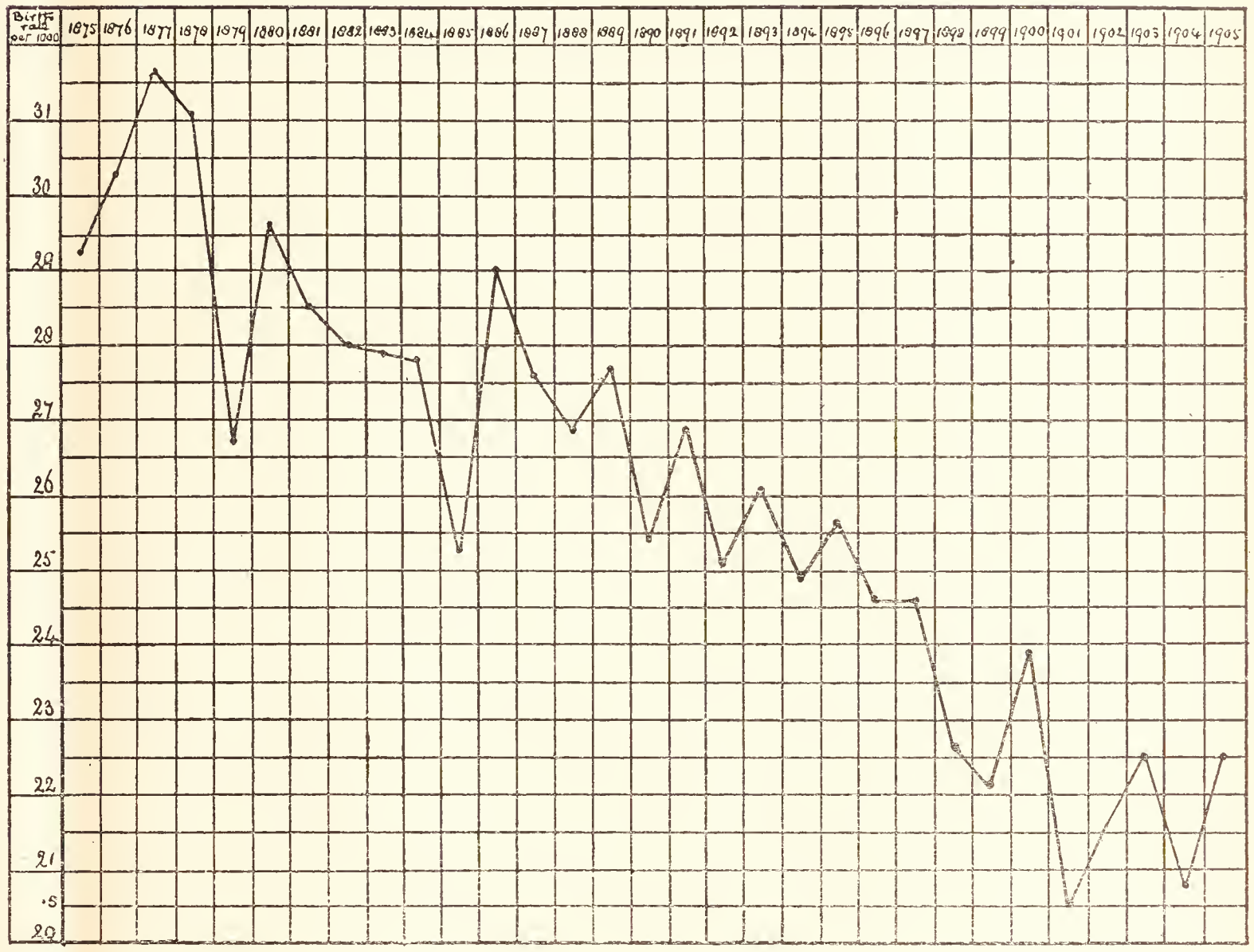
The population for the year 1905 has been estimated on the same principles as those enunciated in my report for the year 1902. I estimate the population of the whole Town to be 39,540, and the population of the sub-districts as follows:—

St. Andrew-the-Less ...	29,697
St. Andrew-the-Great ...	5,754
St. Giles	4,089

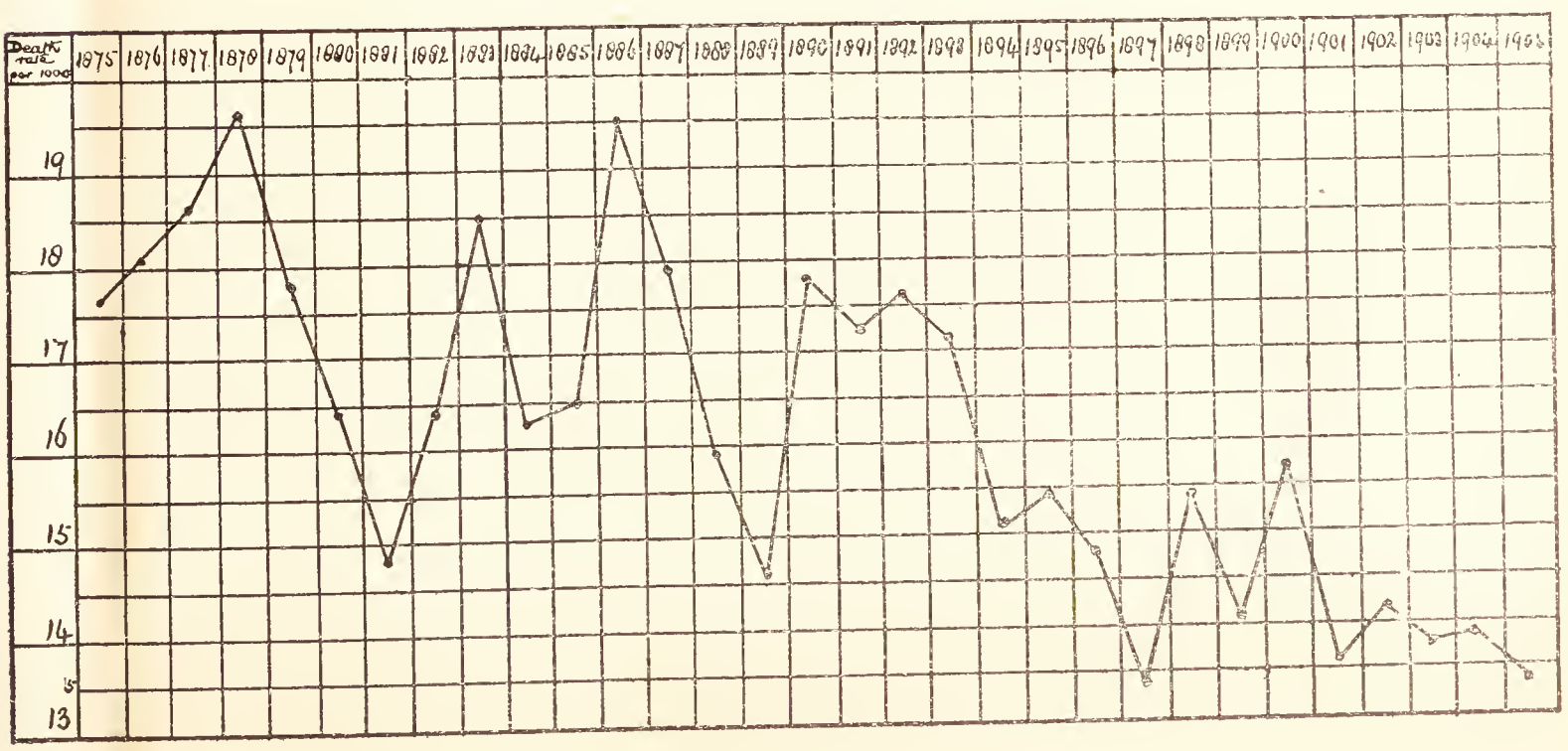
Taking the estimated population to the middle of the year as the basis of calculation, the vital statistics are as follows:—

Charts showing the Birth-rate and Death-rate of Cambridge for each year since 1875.

Birth-rate.



Death-rate.



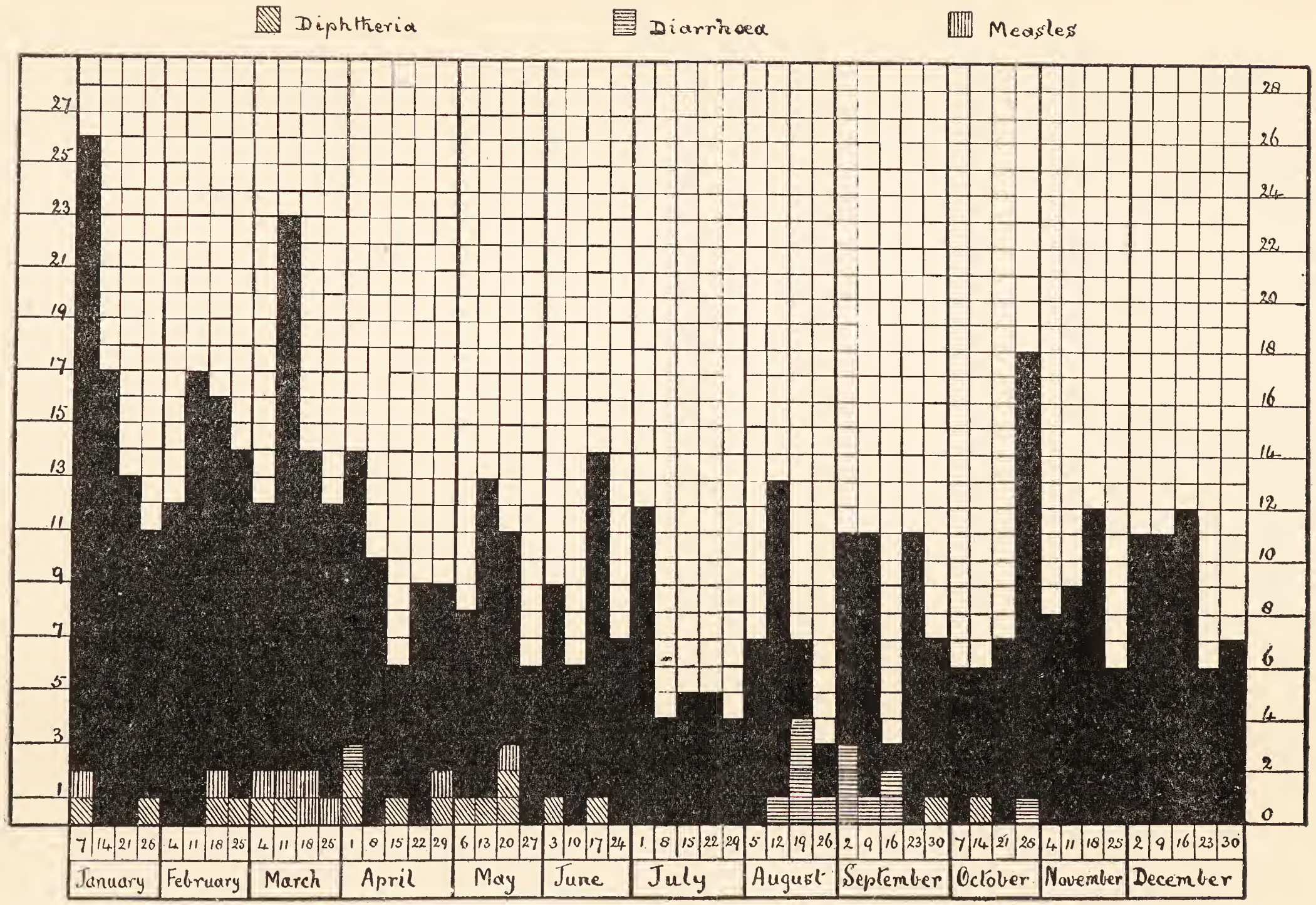


Chart showing the number of Deaths from All Causes during each week in 1905, distinguishing Deaths from Epidemic Diseases.

Births and Birth-rate.

The total number of births registered is 891 (463 males and 428 females), equal to an annual crude birth-rate on the estimated population of 22·5 per thousand. The mean rate for the previous ten years is 22·9. The birth-rate for England and Wales for the year 1905 is given in the summary of the Registrar General contained in the appendix to his report for the last quarter of the year as 27·2 per 1,000 of the population, which is 0·7 per 1,000 below the rate in 1904, and lower than the rate in any other year on record.

Deaths and Death-rate.

The total number of deaths registered is 588, equal to an uncorrected death-rate of 14·8. The deaths in Public Institutions outside the district of persons belonging thereto are 13 in the County Asylum at Fulbourn, which must be added; while 68 of persons not belonging to the district which have occurred in Addenbrooke's Hospital and 2 in the Infectious Diseases Hospital must be subtracted. The corrected number is 531* (254 males and 277 females), or 19 less than the corresponding number in 1904, and the crude death-rate 13·4, which is the lowest rate recorded during the past 21 years, with the exception of that for the year 1897, when it was the same; after applying the factor of correction, ·994, the corrected death-rate for Cambridge is 13·3.

Factor of Correction.

* This number includes 1 death in the St. Andrew-the-Less Sub-District, and 2 deaths in the St. Giles Sub-District, of persons not belonging to the district, but as they did not die in a Public Institution in the District they have to be by direction of the Local Government Board included in the total number of deaths. For a like reason 1 death which occurred outside the district of a person belonging to the district (viz., to the St. Andrew-the-Less Sub-District) is excluded. If the above corrections were made the crude death-rate would be 13·3, and the corrected death-rate 13·2.

The mean rate for the previous ten years is 14·4. The death-rate for England and Wales for the year 1905 is given as 15·2 per 1,000, which is 1·0 per 1,000 below the rate in 1904, and lower than the rate in any other year on record.

The Chart on page 9 shows the birth-rate and death-rate for each year from 1875 to 1905.

Epidemic Mortality.

The deaths belonging to the chief epidemic diseases include 2 from Scarlet Fever, 18 from Diphtheria, 9 from Measles, 4 from Enteric Fever, and 14 from Diarrhœa (12 under 5 years of age), total 47, equal to a death-rate from these diseases of 1·18 per thousand of the population per annum, which is a lower rate by 0·09 than in the year 1904. The mean rate for the previous ten years is 1·34. The death-rate from these diseases in England and Wales for the year 1905 is given as 1.52.

Influenza.

Influenza has contributed 10 deaths to the general mortality.

Infantile Mortality.

Infantile mortality is represented by a ratio of 78 deaths under one year of age to 1,000 registered births, and is the lowest rate on record. The mean rate for the previous 10 years is 132.

Phthisis and Cancer.

The numbers of deaths from Phthisis and Cancer respectively, among persons belonging to the district, are 40 and 46, and the death-rates per thousand living from these diseases are 1·01 and 1·16 respectively.

The deaths and death-rate from Phthisis and Cancer respectively, among persons belonging to the district, during the previous twenty years, are set out in the following table :—

	Phthisis.		Cancer.	
	Deaths.	Death-Rate.	Deaths.	Death-Rate.
1885 ...	63 ...	1·74 ...	20 ...	0·55
1886 ..	67 ...	1·85 ...	17 ...	0·47
1887 ...	64 ...	1·76 ...	23 ...	0·63

	Phthisis.		Cancer.	
	Deaths.	Death-Rate.	Deaths.	Death-Rate.
1888 ...	58	1·59	27	0·74
1889 ...	65	1·77	31	0·84
1890 ...	78	2·12	39	1·06
1891 ...	51	1·37	48	1·29
1892 ...	59	1·59	30	0·80
1893 ...	49	1·31	33	0·88
1894 ...	58	1·54	53	1·41
1895 ...	57	1·51	41	1·08
1896 ...	56	1·47	42	1·10
1897 ...	54	1·42	27	0·71
1898 ...	45	1·17	34	0·88
1899 ...	41	1·06	40	1·04
1900 ...	47	1·21	44	1·13
1901 ...	48	1·23	33	0 85
1902 ...	42	1·07	23	0·59
1903 ...	48	1·22	34	0·86
1904 ...	38	0·96	44	1·11
Annual average for years 1885—1904	54·4	1·44	34·1	0·90

Comparative Statistics.

The comparative statistics for the three areas respectively into which I find it convenient to divide the district, after distributing the deaths in the Union Workhouse, Addenbrooke's Hospital, Infectious Diseases Hospital, and the County Lunatic Asylum to their respective areas, are appended in the following table :—

Registration Sub-District.	Deaths belonging.	Share of W.H.	A.H.	I.D.H.	County Asylum.	Total.	Birth-rate.	Death-rate.
S. Andrew-the-Less ..	305	29	33	16	9	392	25·3	13·2
S. Andrew-the-Great ..	58	3	6	..	2	69	10·0	11·9
S. Giles	58	2	7	1	2	70	19·8	17·1
Entire District	421	34	46	17	13	531	22·5	13·4

Disease Incidence.

Disease Incidence.

Disease of an infectious character has been much more prevalent than during the previous year. The total number of cases notified during the year is 253 (23 fatal), equal to a case-rate per thousand of the population of 6·39. The number of cases notified during each of the ten years 1895–1904 is as follows :—137 in 1895, 178 in 1896, 171 in 1897, 217 in 1898, 226 in 1899, 276 in 1900, 172 in 1901, 256 in 1902, 550 in 1903, and 183 in 1904, total 2,366, equal to a mean case-rate per thousand of the population of 6·14.

Small Pox.

No case of Small-Pox has been notified in the district during the year, but on March 24th I received a communication from the Port Medical Officer of Health of Southampton informing me that a Sergeant, giving his address as Cambridge, had disembarked from ss. Soudan, on which a case of Small-Pox had occurred. The man was duly traced and kept under observation for the usual period, and did not develop the disease.

The number of cases of Small-Pox notified, and the number of deaths registered, in the district during each of the ten years 1895–1904 are set out in the following table :—

	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	Total.
Cases ..	1	1	—	—	—	—	—	2	132	—	136
Deaths ..	—	—	—	—	—	—	—	1	15	—	16

Mean case rate 0·35 ; mean mortality rate 0·04.

Ten years deaths per cent. of cases 11·7.

Diphtheria.

Diphtheria has been present during every month of the year, with the exception of November and December, 65 cases (18 fatal) in 53 households

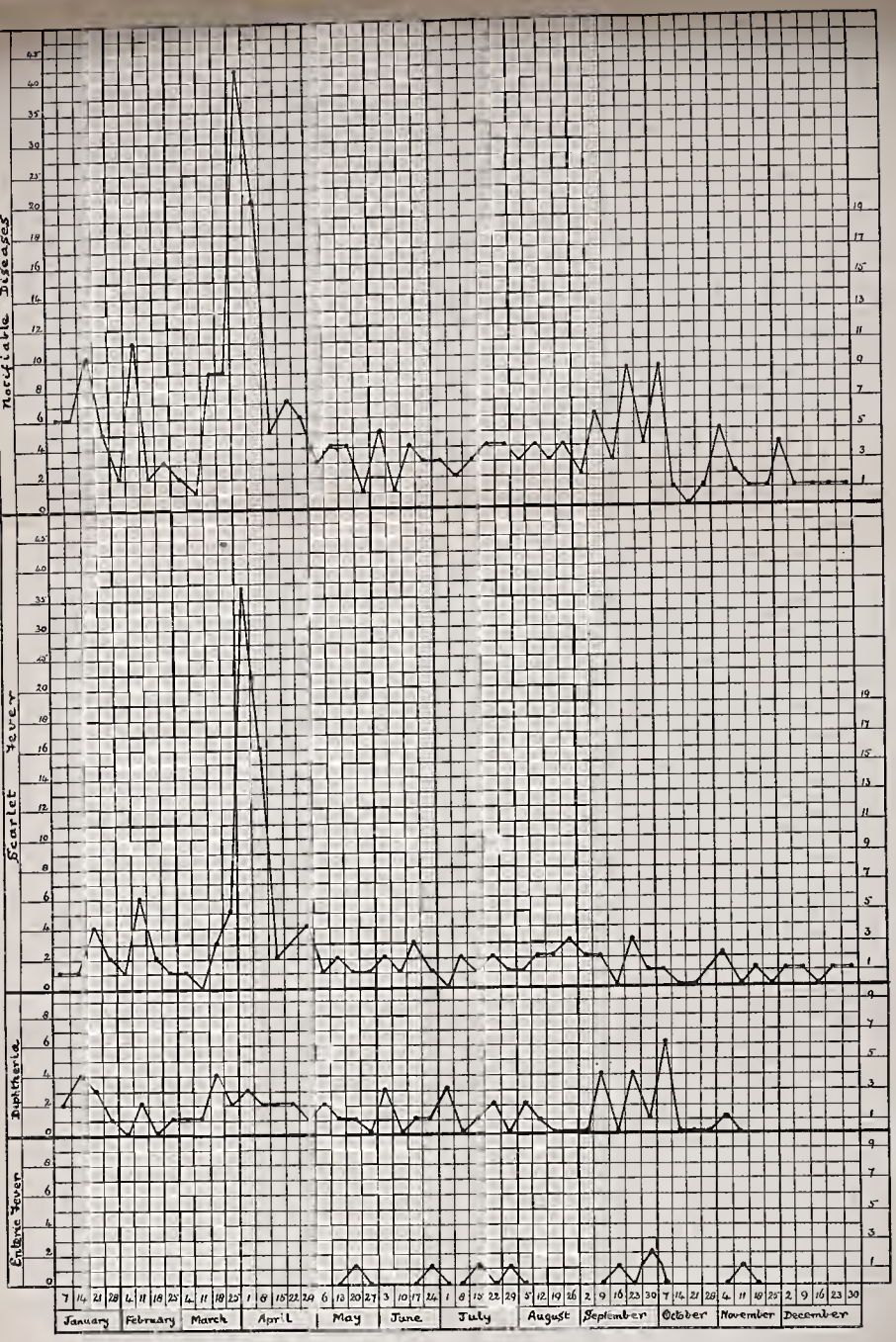


Chart showing the number of cases of all Infectious Diseases notified during each week of the year 1905, and of three specially selected Diseases, viz., Scarlet Fever, Diphtheria, and Enteric Fever.

having been notified, equal to a case-rate per thousand of the population of 1·64.

The cases may again be grouped under the following heads:—(1) imported cases; (2) cases arising from school assemblage; (3) cases due to social intercourse; (4) doubtful cases; (5) secondary cases in households; (6) untraceable cases; (7) cases in Addenbrooke's Hospital.

With regard to (1).—During the year 3 cases of Diphtheria in 3 households were, with great probability, due to inception of the disease outside the district; the first from Poole, Dorset, whence the patient arrived home ill. With regard to the second, the exact place of infection could not be ascertained with precision, because the patient had been on a series of short visits to a number of places; the third was in all probability imported from Windsor. In each instance the diagnosis was confirmed by bacterial examination.

(2). Twenty-seven cases (13 fatal) in 27 households were possibly the direct result of school assemblage. The following is a list of the schools concerned, together with the number of cases and deaths in each:—St. Matthew's Infants', Norfolk Street, 9 cases (4 fatal); St. Matthew's Girls', 4 cases; Sturton Street Infants', 6 cases (3 fatal); York Street, 4 cases (3 fatal); St. Philip's, 1 case (fatal); Catharine Street, 1 case (fatal); East Road Boys', 1 case; East Road Girls', 1 case (fatal). It is worthy of remark that 25 of the cases occurred during the first six months of the year, and out of these 23 were directly connected with the St. Matthew's group of schools. In each instance the diagnosis was confirmed by bacterial examination.

(3). Four cases in 4 households were due to social intercourse with other infected families, and the diagnosis was confirmed by bacterial examination.

(4). The notifications of 8 cases (2 fatal) in 8 households were not substantiated by bacterial examination. One of the fatal cases originally notified as Diphtheria was registered as having died from Acute Laryngitis.

(5). Nine cases in 6 households were secondary cases in households already assailed. The diagnosis in each instance was confirmed.

(6). Ten cases (3 fatal) in 10 households could not be associated with any previous case. In 9 instances the diagnosis was confirmed. This could not be done in the tenth instance, as it proved immediately fatal.

(7). Four cases (1 fatal) occurred among persons already resident in Addenbrooke's Hospital, one of which was a nurse. As the 3 patients had been in the Institution some time before notification the infection must have been introduced to them from without.

On the appearance of the disease in a school, rubbings of the throats of all the class mates and all known "contacts" were at once taken by the Medical Officer of Health for bacterial examination. The number of persons connected with 31 several schools so examined reached 687, with the result that 57 were found to be harbouring the bacillus.

Of the 65 cases notified, in 54 instances the diagnosis was confirmed by bacterial examination. During the year rubbings from the throats of 1,625 persons have been bacteriologically examined, with the result that in 85 (including the 54 mentioned

above) the bacillus microscopically identical with the long diphtheria bacillus was found.

The Chart facing page 14 shows the weekly incidence of the disease.

The number of cases of Diphtheria notified, and the number of deaths registered in the district during each of the ten years 1895-1904 are set out in the following table :—

	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	Total.
Cases ..	24	8	12	29	11	63	55	16	68	39	325
Deaths ..	7	—	—	5	—	3	7	2	11	10	45

Mean case rate 0·84 ; mean mortality rate 0·11.

Ten years deaths per cent. of cases 13·8.

Scarlet Fever.

The numerical decline in the incidence of Scarlet Fever which had occurred in the year 1904 would probably have been maintained under ordinary circumstances, but the accident of milk contamination from outside the district raised the number of cases to roughly double what it was in the previous year. This remark may be emphasised by the circumstance that during the autumn season, when Scarlet Fever incidence is expected to be at its highest, the disease has been practically absent ; indeed, there has not been notified during the last three months of any year since the year 1891 so few cases as during the last three months of 1905.

The number of cases notified during the year is 132 (two fatal) in 103 households. The case-rate per thousand of the population is 3·33. The disease has been present less or more in all the months of the year, and reached its highest curve at the very unusual period of the last week of March and the first three weeks of April ; this circumstance is

attributed to a special epidemic due to milk contamination, which was responsible for sixty cases in forty-three households. A special report was made with regard to fifty-six of these and other cases outside the town, and is reproduced in the appendix. Subsequently four other cases in three households were notified nearly a month afterwards, which were found to be really units of the group. The distribution of the disease over the town, excluding the special influence of the milk distribution, has affected the several areas in the usual proportion.

With regard to the remaining seventy-two cases it may be remarked that six cases (one fatal) in six households were distinctly imported, viz., one from each of the following places :—Bristol, Chesterton, Haddenham, London, and March. The other patient was constantly travelling about the country, so that the exact place of the inception of the disease could not be assigned with certainty. In seven cases in seven households the infection was ascertained to be due to social intercourse with previously infected families. Seven cases in seven households were probably due to school assemblage. Two cases were connected with Addenbrooke's Hospital ; the first was that of a child from a village in the Ely Rural District where Scarlet Fever was present, who was taken to the Hospital to be treated for scalds ; the House Physician found that the child had scarlatinal desquamation, and at his request the patient was at once transferred for isolation to the Borough Infectious Diseases Hospital. The second was a patient already in Addenbrooke's Hospital, and the infection must have been introduced from an outside

source which could not be discovered. Two were members of the nursing staff at the Infectious Diseases Hospital, who must undoubtedly have incepted the disease from their patients. Three cases in three households were ill-defined. Ten cases in 9 households were secondary cases in households already assailed, and 35 cases (1 fatal) in 35 households could not be associated with any previous case.

The chart facing page 14 shows the weekly incidence of the disease.

The number of cases of Scarlet Fever notified, and the number of deaths registered in the district during each of the 10 years 1895-1904 are set out in the following table :—

	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	Total.
Cases ..	52	87	52	103	157	141	74	203	284	66	1219
Deaths ..	—	5	—	—	1	2	—	3	6	2	19

Mean case rate 3·16; mean mortality rate 0·04.

Ten years deaths per cent. of cases 1·5.

Typhoid Fever.

The incidence of Typhoid Fever is still considerably below the 10 years' average. Between May and November 8 cases (2 fatal) in 7 households were notified. The case-rate per thousand of the population is 0·20. Enquiry elicited that 5 cases in 4 households were distinctly imported; the first was that of a nurse from an institution in Essex, in connection with which she had been nursing a bad case of this disease, who came to Cambridge for a little rest and developed the disease within fourteen days of her arrival. The second was that of a gentleman who had been spending his holiday in Brittany and came home ill of the disease. The third and fourth were two sisters who had

been spending their holiday at Scarborough, where they incepted the disease, as they were taken ill a few days after their return home. The fifth was that of a child who was sent to Cambridge on the death of her father from this disease, and no doubt contracted the disease at its home in London. One case, which proved fatal, was probably due to the ingestion of shell fish. In two cases (1 fatal) in 2 households the source of infection could not be with certainty ascertained, but in one instance the sanitary condition of the dwelling was by no means satisfactory.

The number of cases of Typhoid Fever notified, and the number of deaths registered in the district during each of the 10 years 1895-1904 are set out in the following table :—

	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1894.	Total
Cases ..	28	34	67	51	35	31	22	13	6	9	296
Deaths ..	3	7	8	7	1	1	3	3	1	—	34

Mean case rate 0·76; mean mortality rate 0·08.

Ten years deaths per cent. of cases 11·4.

Puerperal Fever.

Five cases of Puerperal Fever have been notified. Two of the cases proved fatal, but the deaths were registered as due to (1) Pelvic Abscess and General Peritonitis; and (2) to Parametritis and Septicæmia.

With regard to the defects in the Midwives Act I here think it desirable to repeat my criticism that many lives might be saved if in addition to the provisions affecting the Midwife there were additional provision made for the disinfecting and cleansing of the lying-in room *before and after* use, and if needful the free provision of clean bedding and appliances wherever the midwife considers it necessary.

The number of cases of Puerperal Fever notified, and the number of deaths registered in the district during each of the 10 years 1895-1904 are set out in the following table :—

	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	Total.
Cases ..	1	3	1	2	2	3	1	1	2	1	17
Deaths ..	—	2	—	—	2	1	1	1	1	—	8

Erysipelas.

Forty-three cases of Erysipelas have been notified during the year, equal to a case-rate per thousand of the population of 1·08.

The number of cases of Erysipelas notified, and the number of deaths registered in the district during each of the 10 years 1895-1904 are set out in the following table :—

	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	Total.
Cases ..	31	45	38	30	21	35	20	22	23	33	298
Deaths ..	—	—	—	—	—	1	2	—	—	1	4

Mean case rate 0·77 ; mean mortality rate 0·01.
Ten years deaths per cent. of cases 1·3.

Other notifiable Diseases.

No case of Cholera, Typhus Fever, Relapsing Fever, Continued Fever, or Plague has been notified during the year, or in any of the 10 years 1895-1904 with the exception of Continued Fever, and three cases of this disease have been notified, viz., two in 1894 and 1 in 1897.

Diarrhœa.

Diarrhœa was present during March, August, September, and October, and caused 14 deaths, 12 of which occurred during August and September. The death-rate from this disease is 0·35 per thousand living, and the death-rate for England and Wales for the same period is given as 0·59.

The deaths and death-rate from Diarrhœa among persons belonging to the district during the previous twenty years are set out in the following table :—

	Deaths.	Death Rate.		Deaths.	Death Rate.
1885	13 ...	0·36	1895	28 ...	0·74
1886	31 ...	0·85	1896	17 ...	0·44
1887	27 ...	0·74	1897	24 ...	0·63
1888	11 ...	0·30	1898	37 ...	0·96
1889	8 ...	0·21	1899	43 ...	1·12
1890	24 ...	0·65	1900	17 ...	0·44
1891	22 ...	0·59	1901	21 ...	0·54
1892	17 ...	0 45	1902	7 ...	0·18
1893	57 ...	1·52	1903	6 ...	0·15
1894	11 ...	0·29	1904	29 ...	0·73
Annual average for years 1885—1894	22·1 ...	0·60	Annual average for years 1895—1904	22·9 ...	0·59

	Deaths.	Death Rate.
Annual average for years 1885—1904	22·5 ...	0·59

Measles.

Measles were present during January, February, March, April, and May, and caused nine deaths. The death-rate from this disease is 0·22 per thousand living, and the death-rate for England and Wales for the same period is given as 0·32.

The deaths and death-rate from Measles among persons belonging to the district during the previous 20 years are set out in the following table :—

	Deaths.	Death Rate.		Deaths.	Death Rate.
1885	5 ...	0 13	1895	0 ...	0·00
1886	13 ...	0·35	1896	0 ...	0 00
1887	0 ...	0·00	1897	0 ...	0·00
1888	13 ...	0·35	1898	35 ...	0·91
1889	0 ...	0·00	1899	0 ...	0·00
1890	7 ...	0·19	1900	1 ...	0·02
1891	0 ...	0 00	1901	2 ...	0·05
1892	0 ...	0·00	1902	44 ...	1·12
1893	0 ...	0·00	1903	0 ...	0·00
1894	25 ...	0·66	1904	12 ...	0·30
Annual average for years 1885—1894	6·3 ...	0·17	Annual average for years 1895—1904	9·4 ...	0·24

	Deaths.	Death Rate.
Annual average for years 1885—1904	7·8 ...	0·27

No deaths from Whooping Cough have been registered during the year. Whooping Cough.

The deaths and death-rate from Whooping Cough among persons belonging to the district during the previous 20 years are set out in the following table :—

	Deaths.	Death Rate.		Deaths.	Death Rate.
1885	14	0·66	1895	2	0·05
1886	15	0·41	1896	19	0·50
1887	10	0·27	1897	3	0·07
1888	12	0·32	1898	21	0·54
1889	13	0·35	1899	6	0·15
1890	39	1·06	1900	21	0·54
1891	21	0·56	1901	0	0·00
1892	2	0·05	1902	5	0·12
1893	9	0·24	1903	7	0·17
1894	17	0·45	1904	0	0·00
Annual average for years 1885—1894	15·2	0·41	Annual average for years 1895—1904	8·4	0·21

	Deaths.	Death Rate.
Annual average for years 1885—1904	11·8	0·31

Influenza prevailed during January, February, March, April, and November, and caused 10 deaths ; the death-rate from this disease is 0·25 per thousand living. The mean rate for the previous 10 years is 0·28. Influenza.

A weekly record of the Disease Incidence of the year is set out in the table on the following page :—

Week ending	Small Pox.	Chicken Pox.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlet Fever.	Enteric Fever.	Puerperal Fever.	Total.
Jan. 7	...	...	...	2	...	3	1	...	6
,, 14	...	...	...	4	...	1	1	...	6
,, 21	...	...	...	3	...	2	4	...	1	10
,, 28	...	...	...	1	...	2	2	...	...	5
Feb. 4	...	...	...	...	...	1	1	...	...	2
,, 11	...	...	...	2	...	2	6	...	1	11
,, 18	...	...	...	...	...	...	2	...	...	2
,, 25	...	...	...	1	...	1	1	...	...	3
Mar. 4	...	...	...	1	...	...	1	...	...	2
,, 11	...	...	...	1	...	...	...	...	...	1
,, 18	...	...	...	4	...	2	3	...	...	9
,, 25	...	...	...	2	...	2	5	...	...	9
April 1	...	...	...	3	...	2	37	...	...	42
,, 8	...	...	...	2	...	1	16	...	1	20
,, 15	...	...	...	2	...	...	2	...	1	5
,, 22	...	...	...	2	...	2	3	...	...	7
,, 29	...	...	...	1	...	1	4	...	...	6
May 6	...	...	...	2	...	...	1	...	...	3
,, 13	...	...	...	1	...	1	2	...	...	4
,, 20	...	...	...	1	...	1	1	1	...	4
,, 27	...	...	...	...	...	...	1	...	...	1
June 3	...	...	...	3	...	...	2	...	...	5
,, 10	...	...	...	...	...	...	1	...	...	1
,, 17	...	...	...	1	...	...	3	...	...	4
,, 24	...	...	...	1	...	...	1	1	...	3
July 1	...	...	...	3	...	...	...	...	...	3
,, 8	...	...	...	...	...	...	2	...	...	2
,, 15	...	...	...	1	...	...	1	1	...	3
,, 22	...	...	...	2	...	...	2	...	...	4
,, 29	...	...	...	...	...	2	1	1	...	4
Aug. 5	...	...	...	2	...	...	1	...	...	3
,, 12	...	...	...	1	...	1	2	...	...	4
,, 19	...	...	...	...	...	1	2	...	...	3
,, 26	...	...	...	...	...	1	3	...	...	4
Sept. 2	...	...	...	...	...	...	2	...	...	2
,, 9	...	...	...	4	...	...	2	...	...	6
,, 16	...	...	...	...	...	2	...	1	...	3
,, 23	...	...	...	4	...	2	3	...	...	9
,, 30	...	...	...	1	...	...	1	2	...	4
Oct. 7	...	...	...	6	...	2	1	...	...	9
,, 14	...	...	...	...	...	1	...	...	...	1
,, 21	...	...	...	...	...	...	...	...	...	...
,, 28	...	...	...	...	...	...	1	...	...	1
Nov. 4	...	...	...	1	...	1	2	...	1	5
,, 11	...	...	...	...	...	1	...	1	...	2
,, 18	...	...	...	...	...	...	1	...	...	1
,, 25	...	...	...	...	...	1	...	...	...	1
Dec. 2	...	...	...	...	...	3	1	...	...	4
,, 9	...	...	...	...	...	...	1	...	...	1
,, 16	...	...	...	...	...	1	...	...	...	1
,, 23	...	...	...	...	...	...	1	...	...	1
,, 30	...	...	...	...	...	...	1	...	...	1
TOTALS	...	...	...	65	...	43	132	8	5	253

Physical Features and General Character of the District.

Physical Features, etc.

The town of Cambridge is situated on the border of the Fen Land, and just below the confluence of several streams which constitute the River Cam. The river takes a sharp curve, enclosing on its right bank the larger part of the town, and having on its left a smaller and more elevated part. A small portion of the district to the East rests on chalk, and the remainder on gault, which is capped in the lower parts of the town by the gravels and alluvium ; these surface features involve peculiarities of disease incidence which have been referred to from time to time in my past reports.

House Accommodation.

House Accommodation.

The house accommodation of the district, especially for the working classes, is ample and of a satisfactory character, with the inevitable exceptions in an ancient town of some narrow passages and cul-de-sacs, and these are very much better than they were some years ago. The proportion of open space about the houses varies considerably in different parts of the town, and any defect in this regard is compensated for to a large extent by the numerous gardens and recreation grounds. There is very little in Cambridge of what is known as extreme density of population. Building by-laws have been in operation in the district since the year 1889, and these were revised during the year 1902. During the past few years a large residential area has grown up in the neighbourhood of Hills Road and Mill Road.

A statement by a Committee representing the Cambridge University Branch and the Cambridge Women's Branch of the Christian Social Union on the Housing of Cambridge and a report of the work by the Housing Committee of the Christian Social Union in Cambridge, March, 1902, to November, 1903, together with statistical tables, a reprint of which appeared in the *Economic Review*, October, 1904, were communicated to the Borough Council for their consideration, and would appear to be inconsistent with the above statements. These papers were referred to the Public Health Committee, and I was requested to make some remarks thereon. Accordingly on April 30th, 1904, I made a report to the Public Health Committee dealing with the several items of the "statement," and some further remarks on April 26th, 1905. Omitting the details as to water supply, closet accommodation, ventilation, etc., I think it well to reproduce my remarks on the *general* question :—

"The object of the Housing Committee can only be obtained by closure or demolition, as reconstruction would in my opinion be impossible of attainment. Both of the above measures have been applied in certain instances in the past. I quite agree that many of the places look unhealthy, but one difficulty hitherto has been that they have not caused ill-health . . . .

"Having carefully read the Paper on the Housing of Cambridge in the *Economic Review*, October, 1904, I would like to point out :—

"(1) With regard to the tabulated matter as to Overcrowding, I am unable adequately to discuss it, as it is not easily understandable

and certainly not comparable with the Table in the Census Returns.

"(2) With regard to the Table and observations on Page 423 of the *Economic Review*, the observations with regard to defective repairs of houses may be answered by stating that the inspection of such houses and the report thereon form part of the routine work of the Inspectors of Nuisances, and is continually occupying their attention. With regard to the observations on defective height of rooms it may be stated that such a matter is quite outside the ability of my department to deal with, and would not be a sufficient reason for the Sanitary Authority to ask the Magistrates for a Closing Order, which is the only remedy short of acquisition of the property by the Corporation and rebuilding that can be applied. I may point out further that to be consistent the same principle should be applied to many of the better class houses in the older parts of the town, where the rooms are likewise less than eight feet in height. With regard to the Table on Page 427 as to the provision of yards or gardens, I would point out that although it is desirable that there should be a 'sufficient' back yard or garden to each house, it is scarcely possible of accomplishment without some scheme of reconstruction such as the author suggests, and here again I may point out that many of the larger houses in the centre of the town are no better off in this respect than the cottages referred to.

"(3) With regard to the Table on Water Closet Accommodation on Page 425 I think it would have been more easily understood if the number of instances of insufficient accommodation had been given instead of the total number of houses—for example, the figure 14 in St. Andrew's-the-Less column represents really only 2 groups of houses where there are only two closets to seven houses.

"(4) With regard to paragraph 2, Page 426, of the *Economic Review*, October, 1904, or paragraph 2, Page 14, of the reprint, wherein it is stated: 'A water closet without flushing arrangement is probably not hand flushed whenever it is used, and, even if it is, it cannot be flushed with sufficient force. The result must be an increased tendency to the retention of offensive matter, and to stoppages of drains and sewers; and in Cambridge the evil is intensified by the insufficient fall in the sewers due to the flatness of the site of the town," the author would appear to assume that because of the flatness of the town the fall of the sewers must be insufficient; it may be assumed that the author is not an engineer and therefore unacquainted with the expedients by which engineers may overcome the difficulties of such flatness."

A representation under Part II. of the Housing of the Working Classes Act, 1890, Section 30, was made on November 13th with regard to four houses in Collin's Court, Northampton Street, and was deferred for further consideration.

Filthy Dwellings.

One house in Gloucester Place, Leeke Street, and King Street respectively; and two houses

in Brewhouse Lane, Compasses Passage, and East Road respectively, were reported as being filthy ; on notice from the Inspector of Nuisances all the premises were cleansed.

Over-crowding.

Ten cases of overcrowding have been satisfactorily dealt with ; in six instances by the removal of the family to a larger dwelling, and in four instances by the removal of some members of the household.

Sewerage and Drainage.

Sewerage and Drainage.

With regard to the Sewerage and Drainage of the District, I am favoured with the following information by the Borough Engineer and Surveyor :—

" There is a high level and low level system of sewers ; the former deals with the surface water from the various roads, streets, etc., and with the rain water from the rain water pipes in the fronts of houses which discharge their contents into the road at about its surface level ; the latter for the sewage proper are graded from the several sewer summits in the Borough and District to a point in Barnwell to the North East of the Town, close to the river and many feet below its level, and at this place an artificial outlet is created by pumping the sewage to near the surface and forcing it through an enclosed iron pipe or rising main about two miles long, with a total lift of about 44 feet, to a sewage farm or filtration area. The effluent from this land is discharged by gravitation into the river a few yards below Baitsbite Locks."

Results of Inspections.

The following is a summary of the sanitary work done during the year :—

New closets have been provided in connection with one house Green's Court and Newmarket Road ; and four houses East Road.

Flushing apparatus to closets has been provided in connection with one house Bradmore Street, Brandon Place, Burleigh Street, Castle Street, East Road, Emmanuel Street, Fitzwilliam Street, Hemingford Road, John Street, Kingston Street, Little St. Mary's Lane, Mawson Road, Melbourn Place, Parkside, Perowne Street, Prospect Row, St. Peter's Terrace, and Sidney Street ; two houses Bateman Street, Broad Street, Brunswick Terrace, Christ's Lane, Earl Street, Gwydir Street, Hobson Street, King Street, King's Parade, Madingley Road, Maid's Causeway, Newmarket Road, Park Street, Portugal Place, Radegund Buildings, St. Andrew's Street, and St. John's Road ; three houses Bridge Street, Coronation Street, Gentle's Yard, New Square, Shamrock Passage, and Station Road ; four houses Sleaford Street ; six houses Tenison Road ; and fourteen houses Ainsworth Street.

Brick and tile drains have been removed in connection with one house Burleigh Street, Emmanuel College, Emmanuel Street, Hobson Street, Hooper Street, Little St. Mary's Lane, Maid's Causeway, Melbourn Place, St. Andrew's Street, Sidney Street, and Wray's Court ; two houses Bradmore Street, Castle Street, Crispin Passage, Jesus Lane, King Street, Lensfield Road, Panton Street, Petty Cury, Prospect Row, Radegund Buildings, St. Edward's Passage, South Street, Thompson's Lane, and Trumpington Street ; three houses Ainsworth Street, East Road, and Orchard Street ; four houses Coldham's Lane, Gas Lane, Norfolk Street, and Trinity Place ; five houses

Emmanuel Road, King's Parade, and Pratte's Buildings, Newnham; six houses Christ's Lane, Northampton Street, and St. Anthony Street; seven houses Gwydir Street, and Park Street; eight houses Clarendon Street; nine houses Bridge Street, New Square, Newmarket Road, and Trinity Street; eleven houses New Street; and fourteen houses Smart's Row.

Ventilation to drains has been provided in connection with one house Albert Street, Brooklands Avenue, Elm Street, Emmanuel Street, Fitzwilliam Street, Hemingford Road, Hobson Street, Little St. Mary's Lane, Lyndewode Road, Maid's Causeway, Melbourn Place, Parkside, Portugal Place, Rivar Place, Russell Street, St. Paul's Road, St. Peter's Street, and Sidney Street; two houses Bateman Street, Broad Street, Castle Street, East Road, Glisson Road, Hills Road, Hobart Road, Jesus Lane, King Street, Madingley Road, Market Hill, Pembroke Street, Petty Cury, Prospect Row, Regent Street, St. Edward's Passage, South Street, Sturton Street, Trumpington Street, Victoria Street, and York Street; three houses Fitzroy Street, Gloucester Place, Hope Street, Ross Street, St. Andrew's Street, St. John's Road, Station Road, and Orchard Street; four houses Belgrave Road, Bradmore Street, Brunswick Terrace, Coldham's Lane, Edward Street, Round Church Street, and St. Matthew's Street; five houses Brunswick Place, Burleigh Street, Cavendish Road, King's Parade, Malta Road, Panton Street, Pratte's Buildings, Newnham, and Thompson's Lane; six house Christ's Lane, Emmanuel Road, Green's Court, Lensfield Road, Norfolk Terrace, Northampton Street, Park Parade, St. Anthony Street, and St. Matthew's Court; seven

houses Albert Street, Norfolk Street, Park Street, and Staffordshire Street ; eight houses Brunswick Cottages, Catharine Street, Clarendon Street, Earl Street, Sleaford Street, and Staffordshire Gardens ; nine houses Coronation Street, Mawson Road, and Trinity Street ; ten houses Bridge Street, Mill Road, and New Square ; eleven houses Sturton Street ; twelve houses Gas Lane ; fourteen houses Newmarket Road, and Smart's Row ; fifteen houses Stone Street ; seventeen houses Hooper Street ; nineteen houses Kingston Street ; twenty-one houses Argyle Street ; twenty-two houses York Street ; twenty-nine houses New Street ; thirty-six houses Gwydir Street ; forty-four houses Tenison Road ; and sixty-four houses Ainsworth Street.

Sanitary improvements have been effected either by substitution of earthenware gulley traps for bell traps, disconnection of rain water and sink waste pipes from sewer, repairing guttering, or relaying brick paving at Addenbrooke's Hospital and at one house Albert Street, New Street, Brooklands Avenue, Castle Street, St. Catharine's College, Elm Street, Emmanuel College, Emmanuel Street, Fitzwilliam Street, Hills Road, Hobson Street, Jordan's Yard, Little St. Mary's Lane, Lyndewode Road, Melbourn Place, Mortimer Road, Parkside, Petty Cury, Portland Place, Portugal Place, Portugal Street, Rivar Place, River Lane, Russell Street, St. Paul's Road, St. Peter's Street, Stockwell Street, Warkworth Street, Wellington Passage, Wheeler Street, and Wray's Court ; two houses Belvoir Terrace, Broad Street, City Road, Elm Street, Fair Street, Hobart Road, John Street, Madingley Road, Maid's Causeway, Miller's Passage, Pembroke Street, Petty Cury, Post Office Terrace, Queen's Court, South Street,

and Victoria Street ; three houses Blackmoor Head Yard, Crispin Passage, Fitzroy Street, Glisson Road, Gloucester Place, Hemingford Road, Hope Street, King Street, Malcolm Street, Panton Street, Regent Street, Radegund Buildings, Ross Street, St. John's Road, Station Road, and Trumpington Street; four houses Belgrave Road, Bradmore Street, Burleigh Street, Cambridge Place, Castle Street, Edward Street, Fisher's Lane, Market Hill, Prospect Row, St. Andrew's Street, St. Barnabas Road, St. Matthew's Street, Trinity Place, and Trumpington Street ; five houses Bateman Street, Brunswick Place, Cavendish Road, Gold Street, Green's Court, Malta Road, Pratte's Buildings, Round Church Street, Thompson's Lane, Vicarage Terrace, and York Terrace ; six houses Brown's Yard, Christ's Lane, East Road, Norfolk Terrace, Northampton Street, St. Anthony Street, St. Edward's Passage, Shamrock Passage, and Sun Court ; seven houses Albert Street, Park Street, and Staffordshire Street ; eight houses Brunswick Cottages, Catharine Street, Emmanuel Road, James Street, Lensfield Road, Norfolk Street, Park Parade, Staffordshire Gardens, and Stone Terrace ; nine houses Mawson Road, St. Eligius Street, Sleaford Street, and Trinity Street ; ten houses Clarendon Street, Earl Street, and Willow Place.

Excrement Disposal.

Excrement Disposal.

The system of excrement disposal in the Borough is almost entirely on the water carriage principle ; there is still a large number of closets that are hand-flushed. These are being remedied as speedily as possible and provided with flushing tanks, no

fewer than ninety-four having been so altered during the past year.

Removal and Disposal of House Refuse.

Removal of Refuse.

There is a regular service of house to house scavengering, and the material is carried to the refuse destructor at the Sewerage Pumping Station.

Water Supply.

Water Supply.

The town is almost exclusively supplied by the Cambridge University and Town Waterworks Company. It is worthy of remark that I have always had misgivings as to the possibility of specific contamination of the water supply over the gathering ground, and have from time to time mentioned it to the several authorities concerned. (See Annual Report, 1884, 1885, 1897, 1898, 1899, 1900.) It is unfortunate there appears to be no legal power vested in the Water Company, who spare no pains or expense to secure the the purity of the water, to control methods of excrement disposal over that area.

In a few instances the supply is obtained from wells, but the use of water from these for drinking purposes is gradually being discontinued.

Owing to the inadequacy or unfitness of the water supply to one house Cyprus Road, Earl Street, Hemingford Road, Hobson Street, and Kingston Street; six houses Newmarket Road; and eight houses James Street, a supply has been laid on from the Company's main.

Places over which the Council have Supervision.

(I.) Slaughterhouses, Knackers, and Other Offensive Trades.

Slaughter-houses, etc.

An application for renewal of licence under the order made in respect of premises in Sturton Street has been granted by the Authority.

All slaughterhouses have been regularly inspected during the year, and where defects have been found these have, on notice from the Inspector of Nuisances, been remedied.

Food Inspection.

Food Inspection.

The public markets and provision shops are regularly inspected.

On June 26th about 1,000 tins of sprats were, after examination, destroyed at the request of the owner.

On October 28th two barrels of pears were seized at the Central Market, and after examination were ordered by a Magistrate to be destroyed.

On December 12th a carcase of a bullock, after examination by a Magistrate, was ordered to be destroyed.

(II.) Common Lodging Houses.

Common Lodging Houses.

The new By-laws with regard to Common Lodging Houses which, as recorded in my previous report, have been communicated to the nine keepers of Common Lodging Houses in the town, and all, with one exception, adapted their premises to the requirements of the By-laws and to the satisfaction of the Medical Officer of Health, who accordingly signed the necessary certificates. The exception has ceased to be a Common Lodging House within

the meaning of Section 80 of the Public Health Act, 1875. During the year an application was received for a licence for other premises, which, after inspection, were reported as complying with the By-laws, and the certificate of licence issued accordingly. These places are now under the special sanitary supervision of one of the Inspectors of Nuisances, and under the disciplinary supervision of a Sergeant of Police. During the year the Inspector of Nuisances has made 114 visits to these premises, and found them to be conducted in a satisfactory manner.

(III.) Factories and Workshops.

1.—INSPECTION.

Including Inspections made by the Inspector of Nuisances.

Premises.	Inspections.	Written Notices.
Factories (including Factory Laundries) ...	—	—
Workshops (including Workshop Laundries)	105	9
Workplaces	—	—
Homeworkers' Premises	180	7
Total	285	16

2.—DEFECTS FOUND.

Nuisances under the Public Health Acts:

Particulars.		No. of Defects. Found.	Remedied.
Want of Cleanliness		37	37
Want of Ventilation		—	—
Overcrowding		2	2
Want of Drainage of Floors		—	—
Other Nuisances		15	15
Sanitary Accommodation	insufficient ...	—	—
	unsuitable or defective ...	6	6
	not separate for sexes ...	—	—
Carried forward		60	60

	No. of Defects. Found.	Remedied.
Nuisances brought forward	60	60
Offences under the Factory and Workshops Act :		
Illegal occupation of underground bakehouse (S. 101)	—	—
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)...	—	—
Failure as regards lists of outworkers (S. 107)	6	—
Giving out work to be done in premises which are unwholesome (S. 108)	—	—
Giving out work to be done in premises which are infected (S. 110)	—	—
Allowing wearing apparel to be made in premises infected by Scarlet Fever or Small Pox (S. 109)	—	—
Total	66	60

3.—OTHER MATTERS.

Matters notified to H.M. Inspector of Factories :

Class.		Number.
Failure to affix Abstract of the Factory and Workshops Act (S. 133)		22
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5)	Notified by H.M. Inspector ...	8
	Reports of action taken sent to H.M. Inspectors	—
Other		—

Underground Bakehouses (S. 101) :—

Certificates granted during the year	—
In use at the end of the year	8

Homework :

Lists of Outworkers (S. 107) :

		Number of Lists.	Outworkers.
Lists received		62	479
Addresses of Outworkers	forwarded to other Authorities ...	4	244
	received from other Authorities ...	1	1

Homework in unwholesome or infected premises.

	Wearing Apparel.	Other.
Notices prohibiting homework in unwholesome premises (S. 108)	—	—
Cases of infectious disease notified in home-workers' premises	1	—
Orders prohibiting homework in infected premises (S. 110)	1	—
Workshops on the Register (S. 131) at the end of the year	250	

Factories.

There are four factories in the district where more than forty persons are employed, and the examination of these premises with regard to the provisions for escape in case of fire has been attended to by the Fire Brigade Committee.

Workshops and Homeworkers' Premises.

During the year 105 workshops and 180 home-workers' premises have been examined. In most instances the orders of the Sanitary Authority have been readily complied with. The following is a summary of the defects observed and the remedies applied :—

Trade Workshops & * Home Workers' Premises.	No.	Defects found to exist.	Result of Action.
Bakehouses	17	14 Uncleanliness 3 Dilapidated floors	Premises cleansed New floors provided or floors repaired.
Cycle Works	1	Uncleanliness	Premises cleansed
Dressmakers	1	Overcrowding	Overcrowding abated
Harness Makers	2	Uncleanliness	Premises cleansed

Trade Workshops & * Home Workers' Premises.	No.	Defects found to exist.	Result of Action.
Laundries	3	1 Drains defective	New system provided
		1 Ceiling dilapidated	Ceiling repaired
		1 Uncleanliness	Premises cleansed
Marine Store Dealers..	2	No flushing apparatus to w.c.'s	Flushing apparatus provided
Mineral Water Manufacturer	1	No flushing apparatus to w.c.	Flushing apparatus provided
Wheelwrights	2	1 No flushing apparatus to w.c.	Flushing apparatus provided
		1 w.c. in foul state	w.c. cleansed
*Shoemakers	5	3 Uncleanliness	Premises cleansed
		1 Drains unventilated	Ventilation provided
		1 Overcrowding	Overcrowding abated
*Tailors	26	16 Uncleanliness	Premises cleansed
		2 Dilapidated walls	Walls repaired
		1 Paving dilapidated	Paving repaired
		1 Flushing apparatus out of order	Flushing apparatus repaired
		6 Drains defective	Drains repaired

During the year 62 lists, containing the names and addresses of 479 outworkers, have been received by the Authority ; and four lists, containing the names and addresses of 244 outworkers whose place of residence is outside the Borough area, have been forwarded to the Authorities of the districts in which they reside.

The provisions of the Statute with regard to the prevention of home work being done in dwellings where infectious disease has appeared have been found useful in one instance, and the premises were disinfected before any work was allowed to be received.

(III.) Dairies, Cowsheds, and Milkshops.

Dairies, Cowsheds, and Milkshops.

There are in the Borough 33 cowkeepers and 89 dairymen and milk purveyors ; to this latter number must be added 23 milk purveyors who live in various parts of the country but deliver milk in the town. All dairies, cowsheds, and milkshops have been periodically inspected, and in several instances orders for cleansing and limewashing have been readily complied with.

(IV.) Canal Boats.

Canal Boats.

Report under the Canal Boats Acts, 1877-84, as required by the Local Government Board, and communicated to the Board :—

"(1) The arrangements made are that the Chief Inspector of Nuisances has been appointed, without special remuneration, to inspect the Canal Boats plying in the District.

"(2) The Boats plying within the district formerly belonged to the Eastern Counties Navigation Company, and are now owned partly by Messrs. Colchester and Ball, of Burwell, and partly by the King's Lynn Transport Company."

Ten inspections have been made during the year of boats plying in the District.

Two boats inspected had not complied with the regulations as to painting and other matters required by the Act.

"(3) In one instance the boat required painting, etc., and the other re-numbering, etc."

There were no women or children on board any of the boats, and no case of infection has been notified or traced.

"(4) With regard to the boats requiring painting and renumbering the requirements have been complied with.

"(5) No legal proceedings have been taken during the year.

"(6) Number of Registered Boats, 7."

Nuisances.

Nuisances of various kinds, as indicated in the Inspector's Table in the Appendix to this Report, have been dealt with. Nuisances.

Methods of Dealing with Infectious Diseases.

The methods of dealing with Infectious Diseases are :—

(*a*) By notification, followed by enquiry, and in this regard every house in the Town wherein a case of infectious disease has appeared, with the exception of a few cases of Erysipelas, has been visited with a view to the elucidation of the cause, or for the removal of injuriously operating conditions. Notifications.

(*b*) Removal of patients to the Borough Infectious Diseases Hospital, or to Addenbrooke's Hospital respectively.—During the year 85 cases of Scarlet Fever (64 per cent. of those notified), 47 cases of Diphtheria, and one case of Typhoid Fever belonging to the Town, as well as nine cases of Scarlet Fever and two cases of Diphtheria belonging to the Chesterton Urban District, one case of Scarlet Fever, four cases of Diphtheria, and one case of Typhoid Fever belonging to the Chesterton Rural District, one case of Scarlet Fever belonging to the Swavesey Rural District, and two cases of Scarlet Fever belonging to the Ely Urban District, have been Isolations.

admitted to the first mentioned institution, and two cases of Scarlet Fever, four cases of Diphtheria, four cases of Typhoid Fever, and three cases of Erysipelas have been treated at the second mentioned institution. Where the patients are not removed advice is given to the householders to carry out isolation of the cases in their own homes.

School Closure, etc.

(*c*) School closure or particular exclusion from school.—It has been necessary to recommend the closure of the Castle End Boys' School, King Street Infants' School, St. Giles Girls' and Infants' Schools, and St. Philip's Boys', Girls', and Infants' Schools, as well as several Sunday Schools, on account of the prevalence of Measles ; and the Castle End Boys' School and the St. Giles Girls' and Infants' Schools on account of the prevalence of Mumps ; and the St. Paul's Boys', Girls', and Infants' Schools on account of the prevalence of Measles and Whooping Cough.

Orders for the exclusion from School, for varying periods, of children from infected households have been sent to the following Schools :—Brunswick Council Boys', Girls', and Infants' Schools ; County Boys' and Girls' Schools ; East Road Boys', Girls', and Infants' Schools ; Higher Grade Boys' School, Paradise Street ; King Street Boys' and Girls' School ; Occupation Road School ; Park Street School ; Perse Boys' and Girls' Schools ; St. Andrew's Roman Catholic School ; St. Barnabas School ; St. Matthew's Girls' and Infants' Schools ; St. Paul's Boys', Girls', and Infants' Schools ; St. Philip's Boys', Girls', and Infants' Schools ; Sturton Street School ; and York Street School.

Circulars have been sent to 142 parents or guardians requesting them to refrain from sending

any of their children to Day School, Sunday School, Church, Chapel, or other place of assemblage, and to keep them out of the streets as much as possible until the risk of infection is passed ; also 21 notices to superintendents of Sunday Schools requesting them to exclude the children of infected households from school till the risk of infection is passed.

Prophylactic Measures.

(*d*) In threatened outbreaks of Diphtheria prophylactic doses of Antitoxin are recommended for the protection of all persons known to have been exposed to the chances of infection, and bacterial examination of rubbings from their throats and nasal passages is made at the Pathological Laboratory for the verification of diagnosis and for the discovery of any unsuspected case of the disease, and persons found to have the Diphtheria Bacillus are asked to submit to isolation at the Borough Isolation Home until quite free from infection.

Disinfections.

(*e*) After the removal, or at the conclusion, of a case of infectious disease, the infected rooms are disinfected with either Formic Aldehyde Sulphur or by the Equifex Spraying Machine, and the bedding, etc., is disinfected at the Steam Disinfecting Apparatus at the Pumping Station.

Tubercular Phthisis.

It will be observed that the death-rate from Tubercular Phthisis still continues low ; it is, however, impossible in the absence of notification of Phthisis to know whether this fact is attributable to a declining prevalence of the disease or to a greater number of recoveries under the new methods of treatment. Socially there are many serious objections to compulsory notification, but hygienically and pathologically notification would be of great value. Under the provisions of the Infectious Diseases (Prevention) Act, 1890, Sec. 4, it would be a distinct

advantage if this disease could be legally included in the group of infectious diseases referred to in that Section. It is satisfactory, however, to record (1) that the medical practitioners in the district continue to avail themselves of the facilities offered by the Council for the bacteriological examination of specimens of sputum of suspected cases for confirmation of diagnosis, and during the year forty-three specimens have been examined. (2) That there is an increasing number of applications made to my department for the disinfection of places and things in respect of such cases.

Tabular Indications.

The details of the cases of Infectious Diseases notified during the year are set out in Table III. and the localities invaded are indicated on the accompanying plan of the town. The table immediately following furnishes an account in detail of the work of disinfection :—

Record of Disinfection, 1905.

No. of Articles from each Disease.

Diphtheria.	Scarlet F.	Typhoid F.	Puerperal F.	Erysipelas.
514	2442	20	30	7

Measles.	Chicken Pox.	Consumption.	Septicæmia.	Cancer.	Eczema.
16	5	83	117	24	15

Miscellaneous.	Articles from Small Pox Huts.
21	1028

Total.

4322

No. of Separate Stovings.

121

Details of Articles Disinfected.

Beds.	Blankets.	Bolsters.	Clothing.	Cushions.	Mattresses.
81	802	142	1247	38	273

Palliasses.	Pillows.	Quilts.	Sheets.	Miscellaneous.
41	410	116	254	918

Rooms Fumigated.

Diphtheria.	Scarlet F.	Typhoid F.	Puerperal F.	Erysipelas.
56	253	8	12	3

Measles.	Chicken Pox.	Cancer.	Miscellaneous.	Consumption.
22	4	4	4	10

Total.
376

Drains Disinfected.
26

The following Schools were sprayed with Formalin by means of the Equifex Spraying Machine:

St. Matthew's Girls' and Infants' School.
St. Giles' Infants' School.

Sale of Food and Drugs Acts, 1875—1899.

Adulteration of Foods.

A copy of the Report of the Public Analyst for the Borough of Cambridge upon articles analysed by him under the above Acts for the year ended 31st December, 1905 :—

Samples.	By whom submitted.	Result of Analysis.	Observations.
15 milks 18 beer 2 bread 4 flour 4 sugar 3 pepper 1 preservative 7 glycerine	Submitted by Inspector Taylor, an officer appointed by the Town Council.	One milk was deficient in non-fatty solids to the extent of 9 per cent. All the other samples were genuine.	Proceedings were taken against the vendor of the adulterated milk when the reserve sample having burst its bottle and could not be produced, the case was dismissed.

Samples.	By whom submitted.	Result of analysis.	Observations.
6 milk 6 butter 8 ice cream 4 lard 3 flour 2 tapioca 3 semolina 1 arrowroot 3 jam 2 cheese 2 vinegar 7 aerated waters 4 beer	Submitted by Inspector Taylor, an officer appointed by the Town Council.	All the samples were genuine.	
8 milk 4 butter 3 bread 3 tapioca 2 semolina 3 pepper	Submitted by Inspector Taylor, an officer appointed by the Town Council.	All the samples were genuine.	
18 milk 6 flour 6 ground rice 6 oatmeal 10 sugar 6 lard 5 pepper 5 vinegar 2 mustard 2 ground ginger 6 beer 6 corn flour	Submitted by Inspector Taylor, an officer appointed by the Town Council.	All the samples were genuine.	

REPORT ON INFECTIOUS DISEASES HOSPITAL.

The institution now consists of one block for Scarlet Fever patients, a set of separate rooms for doubtful cases, one block for Typhoid Fever patients, and one at some considerable distance from the other blocks for Diphtheria patients, an administrative block, a block available for private patients suffering from Scarlet Fever, a laundry, and a mortuary, etc.

In the Scarlet Fever block the kitchen has been enlarged by the inclusion of a room which had ceased to be required for its original purpose of isolation of cases. The lavatory accommodation has also been improved.

A special discharge room and bath room for Scarlet Fever patients is to be provided by the conversion of rooms on the south of the laundry, which are not now needful for laundry purposes.

For the better seclusion of the institution from the public it has been decided that a wall should be erected along the southern boundary, and a wooden fence on the eastern boundary next the public drain, and that an application be made to the Local Government Board to sanction the use for the purpose of an unexpended balance of £220 of a previous loan.

The opportunity of remission in the prevalence of epidemic disease was taken for the painting of

the outside of the Diphtheria and Administrative blocks respectively.

The house engaged as an Isolation Home for Diphtheria "contacts" has been utilised twice during the year, 13 patients being treated there on each occasion. One patient of the latter batch died of Diphtheria after being in the Home nine days.

The following table gives a summary of admissions to and discharges from the Infectious Diseases Hospital during the year, as entered in the Hospital Books.

Patients remaining in Hospital on Dec. 31, 1904:

Scarlet Fever ...	...	17
Diphtheria ...	...	3
Typhoid Fever	...	1
		21

Patients admitted during the year:

Scarlet Fever...	...	98
Diphtheria ...	...	53
Typhoid Fever	...	2
		153

DEATHS.

Scarlet Fever...	...	2
Diphtheria ...	...	16
		18

Patients remaining in Hospital on Dec. 31, 1905:

Scarlet Fever ...	...	5

E. H. died of Scarlet Fever after being in Hospital twenty-nine days.

M. A. died of Scarlet Fever after being in Hospital four days.

G. T. died of Diphtheria after being in Hospital thirteen and a half hours.

W. O. died of Diphtheria after being in Hospital nine days.

F. B. died of Diphtheria after being in Hospital ten and a half days.

W. T. died of Diphtheria after being in Hospital thirty hours.

C. H. died of Diphtheria after being in Hospital two and three-quarter days.

L. T. died of Diphtheria after being in Hospital two days.

E. L. died of Diphtheria after being in Hospital five hours.

W. F. S. died of Diphtheria after being in Hospital thirty-three hours.

E. S. died of Diphtheria after being in Hospital fifteen days.

J. P. died of Diphtheria after being in Hospital nine days.

V. S. died of Diphtheria after being in Hospital nine days.

H. S. died of Diphtheria after being in Hospital seven days.

G. W. died of Diphtheria after being in Hospital eighteen days.

S. F. died of Diphtheria after being in Hospital eleven hours.

B. W. died of Diphtheria after being in Hospital five hours.

L. W. died of Diphtheria after being in Hospital fifteen hours.

Although a larger total number of deaths and a larger case mortality have occurred in the Institution during the year than in any year since its establishment, it should be remarked that five of the cases proved fatal within twenty-four hours of admission, and four others within three days.

The following table has been constructed to show the number of cases which have been admitted since the establishment of the Hospital and the mortality which has occurred.

Year.	Small Pox.		Diphtheria.		Scarlet Fever.		Typhus Fever.		Typhoid Fever.		Erysipelas.		Measles.		Indefinite.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1886	2	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	5	...
1887	...	...	15	3	6	...	...	...	...	...	1	...	...	...	1	...	23	3
1888	...	...	2	...	2	...	...	...	...	...	1	...	1	...	...	...	6	...
1889	...	...	4	1	13	...	...	...	1	...	1	...	2	...	...	...	21	1
1890	...	...	5	1	15	1	...	...	...	...	1	1	...	...	...	...	21	3
1891	...	...	2	...	11	1	...	...	12	2	...	...	...	...	...	...	25	3
1892	3	...	1	...	27	...	1	...	1	...	...	...	3	...	...	...	36	...
1893	5	...	...	...	81	1	...	...	3	1	...	...	...	...	2	...	91	2
1894	1	...	2	1	65	2	...	...	...	...	...	...	...	...	...	...	68	3
1895	1	...	4	1	34	...	...	...	5	...	...	...	...	...	...	...	44	1
1896	1	...	2	...	62	4	...	...	4	1	...	...	...	...	...	...	69	5
1897	...	...	3	...	41	...	...	...	22	1	...	...	...	...	...	...	66	1
1898	...	...	11	2	76	...	...	...	11	4	1	...	2	...	...	...	101	6
1899	...	...	2	1	120	1	...	...	...	...	...	...	...	...	...	...	122	2
1900	...	...	...	...	118	1	...	...	1	...	...	...	...	...	...	...	119	1
1901	...	...	13	...	61	...	...	...	4	...	...	...	...	...	...	...	78	...
1902	...	*1	4	...	183	2	...	...	6	2	...	...	...	...	...	...	193	5
1903	...	...	39	7	248	5	...	...	...	...	...	...	...	...	...	...	287	12
1904	...	...	29	7	59	...	...	...	4	...	...	...	...	...	...	...	92	7
1905	...	...	53	16	98	2	...	...	2	...	...	...	...	...	...	...	153	18

* Admitted as a case of Scarlet Fever.

TABLE I.

For the Whole District of Cambridge.

Table showing Vital Statistics for the year 1905 and the antecedent ten years.

Year.	Population estimated to Middle of each year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all Ages belonging to the District.	
				Under One Year of Age.		At all Ages.						
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1895.....	37680	972	25·7	142	146	628	16·6	109	47	3	584	15·5
1896.....	37857	932	24·6	116	124	591	15·6	112	40	10	561	14·8
1897.....	38042	939	24·6	125	133	551	14·4	136	52	11	510	13·4
1898.....	38228	884	23·1	142	160	617	16·1	112	36	9	590	15·4
1899.....	38416	869	22·6	122	140	587	15·2	148	58	16	545	14·1
1900.....	38607	923	23·9	128	138	657	17·0	138	58	9	608	15·7
1901.....	38732	794	20·5	107	134	577	14·8	145	59	9	527	13·6
1902.....	38968	842	21·6	121	143	606	15·5	133	60	11	557	14·2
1903.....	39157	884	22·5	99	111	578	14·7	142	56	19	541	13·8
1904.....	39347	819	20·8	113	138	597	15·1	155	61	14	550	13·9
Averages for years 1895—1904.	38503	885	22·9	121	136	599	15·5	133	53	11	557	14·4
1905.....	39540	891	22·5	71	79	588	14·8	167	70	13	531†	13·4

* Rates calculated per 1,000 of estimated population.

† This number includes three deaths of persons not belonging to the district, but does not include one death of a person belonging to the district, owing to death having taken place elsewhere than in a Public Institution.

Note.—The deaths included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity and dying in Public Institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity and have died in Public Institutions elsewhere.

The Public Institutions taken into account for the purposes of this and the following Tables are Addenbrooke's Hospital, Infectious Diseases Hospital, and Union Workhouse, Cambridge, and the County Asylum, Fulbourn, Cambs.

Area of District in acres (exclusive of area covered by water) ..... 3,210.
Total population at all ages ..... 38,379 } At Census
Number of inhabited houses ..... 8,700 }
Average number of persons per house ..... 4·4 } of 1901

TABLE II.

Cambridge District and its Divisions.

Table showing Estimated Population, Births, Corrected Deaths at all ages and Infant Mortality for the year 1905 and the antecedent ten years.

Names of Localities.	1 Whole District.				2 St. Andrew the Less.				3 St. Andrew the Great.				4 St. Giles.			
Year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
	a.	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*	*a.*	*b.*	*c.*	*d.*
1895.....	37680	972	584	141												
1896.....	37857	932	561	111												
1897.....	38042	939	510	118	Information not obtainable.				Information not obtainable.				Information not obtainable.			
1898.....	38228	884	590	141												
1899.....	38416	869	545	118												
1900.....	38607	923	608	122	28281	778	442	106	6309	76	109	8	4017	69	57	8
1901.....	38732	794	527	101	28519	681	387	90	6190	46	76	5	4023	67	64	6
1902.....	38968	842	557	114	28814	697	408	94	6112	71	90	10	4042	74	59	10
1903.....	39157	884	541	96	29105	736	414	78	5994	67	74	10	4058	81	53	8
1904.....	39347	819	550	107	29399	702	418	91	5874	56	77	6	4074	61	55	10
Averages of years 1895—1904..	38503	885	557	117												
1905.....	39540	891	531*	70	29697	752	392	58	5754	58	69	2	4089	81	70	10

*This number includes three deaths of persons not belonging to the district, but does not include one death of a person belonging to the district, owing to death having taken place elsewhere than in a public institution.

NOTES.—(*a*) The separate localities adopted for this table are areas of which the populations are obtainable from the census returns. Block 1 is used for the whole district, and blocks 2, 3 and 4 for the several localities.

(*b*) Deaths of residents occurring in Public Institutions beyond the district are included in sub-columns *c* of this table, and those of non-residents registered in Public Institutions in the district are excluded.

(*c*) Deaths of residents occurring in public institutions, whether within or without the district, are allotted to the respective localities, according to addresses of the deceased.

The information required by Note (*b* and (*c*) is not obtainable for the sub-districts 2 3 and 4 for the years 1895—1899

TABLE III.

Cambridge District and its Divisions.

Cases of Infectious Disease notified during the Year 1905.

Notifiable Disease.	Cases Notified in Whole District.							Total Cases notified in each Locality.			No. of Cases removed to Hospital from each Locality.		
	At all Ages.	At Ages—Years.						1 St. Andrew the Less.	2 St. Andrew the Great.	3 St. Giles.	1 St. Andrew the Less.	2 St. Andrew the Great.	3 St. Giles.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.						
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	65	..	15	35	9	6	..	59	4	2	44	1	2
Membranous Croup	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	43	1	1	4	3	33	1	34	4	5	..	..	..
Scarlet Fever	132	1	27	55	34	15	..	98	22	12	62	14	9
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	9	..	1	1	1	5	..	5	1	2	1	..	..
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	5	..	..	..	2	3	..	4	1	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	253	2	44	95	49	62	1	200	32	21	107	1	11

Notes.—The localities adopted for this table are the same as those in Tables II. and IV.

In addition to the Town cases there have been nine cases of Scarlet Fever and two cases of Diphtheria belonging to the Chesterton Urban District; one case of Scarlet Fever, four cases of Diphtheria and one case of Typhoid Fever belonging to the Chesterton Rural District; two cases of Scarlet Fever belonging to the Ely Urban District; and one case of Scarlet Fever belonging to the Swavesey Rural District treated at the Infectious Diseases Hospital.

Besides those cases removed into the Borough Infectious Diseases Hospital, two cases of Scarlet Fever, four cases of Diphtheria, four cases of Typhoid Fever, and three cases of Erysipelas belonging to different parts of the County were medically treated in Addenbrooke's Hospital.

The Borough Infectious Diseases Hospital is situated in the St. Andrew the Less Sub-District, and the Small Pox Hospital is situated in the

TABLE IV.

Cambridge District and its Divisions.

Causes of and ages at Death during the Year 1905.

Causes of Death.	Deaths in or belonging to the whole District at subjoined Ages.							Deaths in or belonging to Localities (at all ages).			Total Deaths in Public Institutions in the District.
	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	St. Andrew the Less.	St. Andrew the Great.	St. Giles.	
1	2	3	4	5	6	7	8	9	10	11	12
Smallpox	..	..	..	..	..	..	..	..	..	..	..
Measles	9	1	8	..	..	..	..	6	..	3	1
Scarlet Fever	2	..	..	1	..	1	..	1	..	1	2
Whooping Cough	..	..	..	..	..	..	..	..	..	..	..
Diphtheria and Membranous Croup	18	..	6	12	..	..	..	18	..	..	17
Croup	1	..	1	..	..	..	..	1	..	..	..
Fever — Typhus	..	..	..	..	..	..	..	..	..	..	..
Fever — Enteric	4	..	1	..	1	2	..	2	1	1	1
Fever — Other continued	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza	10	..	..	..	..	5	5	9	1	..	..
Cholera	..	..	..	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa. (*See* notes at back.)	14	10	2	..	1	..	1	11	1	2	..
Enteritis. (*See* notes at back.)	6	4	..	..	..	..	2	5	..	1	..
Puerperal Fever	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	2	1	1	..	..	..	..	2	..	..	..
Other septic diseases	4	..	..	1	..	3	..	4	..	..	3
Phthisis	40	1	..	2	9	24	4	31	5	4	11
Other tubercular diseases	10	2	5	1	1	1	..	9	..	1	7
Cancer, malignant disease	46	..	..	..	..	27	19	30	9	7	18
Bronchitis	44	5	3	..	1	13	22	29	6	9	8
Pneumonia	30	3	2	4	1	14	6	22	4	4	12
Pleurisy	..	..	..	..	..	..	..	..	..	..	..
Other diseases of Respiratory organs	..	..	..	..	..	..	..	..	..	..	..
Alcoholism. Cirrhosis of liver	5	..	1	..	..	3	1	3	..	2	2
Venereal diseases	..	..	..	..	..	..	..	..	..	..	..
Premature birth	13	13	..	..	..	..	..	11	1	1	..
Diseases and accidents of Parturition	..	..	..	..	..	..	..	..	..	..	..
Heart diseases	45	..	1	1	1	19	23	34	5	6	9
Accidents	6	1	..	1	..	2	2	5	1	..	4
Suicides	4	..	..	..	1	3	..	4	..	..	2
Malarial Fever	..	..	..	..	..	..	..	..	..	..	..
Not certified	..	..	..	..	..	..	..	..	..	..	..
All other causes	218	29	6	1	6	67	109	155	35	28	70
All causes	531*	70	37	24	22	184	194	392	69	70	167

See Notes on next page.

* This number includes three deaths of persons not belonging to the district, but does not include one death of a person belonging to the district, owing to death having taken place elsewhere than in a Public Institution.

NOTES TO TABLE IV.

(*a*) All deaths of "Residents" occurring in public institutions, whether within or without the district, are included with the other deaths in the columns for the several age groups (columns 2—8). They are also, in columns 9—11, included among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars, and Deaths of "Non-residents" occurring in public institutions in the district are excluded.

(*b*) *See* notes on Table I. as to the meaning of "Residents" and "Non-residents," and as to the Public Institutions taken into account for the purposes of these Tables.

(*c*) All deaths occurring in public institutions situated within the district, whether of "Residents" or of "Non-residents," are, in addition to being dealt with as in note (*a*), entered in the last column of this Table.

(*d*) Under the heading of "Diarrhœa" are included deaths certified as from diarrhœa alone, or in combination with some other cause of ill-defined nature; and also deaths certified from—

Epidemic enteritis;
Zymotic enteritis;
Epidemic diarrhœa. Summer diarrhœa;
Dysentery and dysenteric diarrhœa;
Choleraic diarrhœa, cholera, cholera nostras (in the absence of Asiatic cholera).

Under the heading of "Enteritis" are included those certified as from Gastro-enteritis, Muco-enteritis and Gastric catarrh, unless, from information obtained by enquiry from the certifying practitioner or otherwise, the Medical Officer of Health has reason for including such deaths, especially those of infants, under the specific term "Diarrhœa." Deaths from diarrhœa secondary to some other well-defined disease are included under the latter.

Under the headings of "Puerperal Fever" and "Cancer" are included all registered deaths from causes comprised within these general terms.

TABLE V.

Cambridge District.

Infantile Mortality during the Year 1905.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes.	Certified	17	4	2	1	24	5	7	6	7	3	2	3	6	1	3	2	69
	Uncertified	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1*
Common Infectious Diseases.	Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1*
	Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Diphtheria: Croup ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Whooping Cough ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœal Diseases.	Diarrhœa, all forms ..	..	..	..	..	..	1	3	1	1	..	..	1	3	..	..	..	10
	Enteritis (*not Tuberculous*)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Gastritis, Gastro-intestinal Catarrh	..	..	..	..	..	..	1	..	..	..	..	2	..	..	1	..	4
Wasting Diseases.	Premature Birth	9	3	..	..	12	..	..	1	..	..	..	..	..	..	..	..	13
	Congenital Defects ..	2	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	3
	Injury at Birth	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
	Want of Breast-milk ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Atrophy, Debility, Marasmus	..	..	..	..	..	..	..	1	3	1	..	..	..	..	..	..	5
Tuberculous Diseases.	Tuberculous Meningitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Tuberculous Peritonitis: Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
	Other Tuberculous Diseases	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	2
	Erysipelas	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1
	Syphilis	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	3
	Rickets	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Meningitis (*not Tuberculous*)	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
	Convulsions	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	2
	Bronchitis	..	..	..	..	..	..	1	..	1	..	..	..	2	..	..	1	5
	Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Pneumonia	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	..	3
	Suffocation, overlaying ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Other Causes	5	1	1	1	8	3	1	..	1	..	1	..	..	..	1	..	15
		17	4	2	1	24	5	7	6	7	3	2	3	6	1	4	2	70

District (or sub-division) of Cambridge.

Population, estimated to middle of 1905, 39,540.

Births in the year: legitimate, 847; illegitimate, 44.

Deaths from all Causes at all Ages 531.

TABLE VI.

Cambridge District.

Comparison of Prevalence of Sickness and Death from Infectious Diseases corrected by the exclusion of "Non-Residents."

(Rates calculated per 1,000 persons, on the population estimated to the middle of each year.)

Year.	Small Pox.		Diphtheria, Membranous Croup.		Erysipelas.		Scarlet Fever.		Typhus Fever.		Enteric and Continued Fevers.		Puerperal Fever.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1895.....	0·02	0·00	0·63	0·18	0·82	0·00	1·38	0·00	0·00	0·00	0·74	0·08	0·02	0·00
1896.....	0·02	0·00	0·21	0·00	1·18	0·00	2·29	0·13	0·00	0·00	0·87	0·18	0·08	0·05
1897.....	0·00	0·00	0·31	0·00	0·99	0·00	1·36	0·00	0·00	0·00	1·76	0·23	0·02	0·00
1898.....	0·00	0·00	0·75	0·13	0·78	0·00	2·69	0·00	0·00	0·00	1·33	0·18	0·05	0·00
1899.....	0·00	0·00	0·28	0·00	0·54	0·00	4·08	0·02	0·00	0·00	0·91	0·02	0·05	0·05
1900.....	0·00	0·00	1·63	0·07	0·90	0·02	3·65	0·05	0·00	0·00	0·80	0·02	0·07	0·02
1901.....	0·00	0·00	1·42	0·18	0·49	0·05	1·88	0·00	0·00	0·00	0·56	0·07	0·02	0·02
1902.....	0·05	0·02	0·41	0·05	0·56	0·00	5·23	0·07	0·00	0·00	0·33	0·07	0·02	0·02
1903.....	3·93	0·38	1·73	0·28	0·58	0·00	7·25	1·53	0·00	0·00	0·15	0·02	0·05	0·02
1904.....	0·00	0·00	0·99	0·22	0·83	00·0	1·67	0·00	0·00	0·00	0·22	0·00	0·02	0·00
Average for years 1895—1904..	0·35	0·04	0·84	0·13	0·77	0·01	3·16	0·05	0·00	0·00	0·77	0·09	0·04	0·02
1905.....	**0·00**	**0·00**	**1·64**	**0·45**	**1·08**	**0·05**	**3·31**	**0·05**	**0·00**	**0·00**	**0·20**	**0·10**	**0·12**	**0·00***

* Two cases notified as Puerperal Fever proved fatal, but the deaths were registered as (1) Pelvic Abscess and General Peritonitis (2) Parametritis and Septicæmia.

TABLE VII.

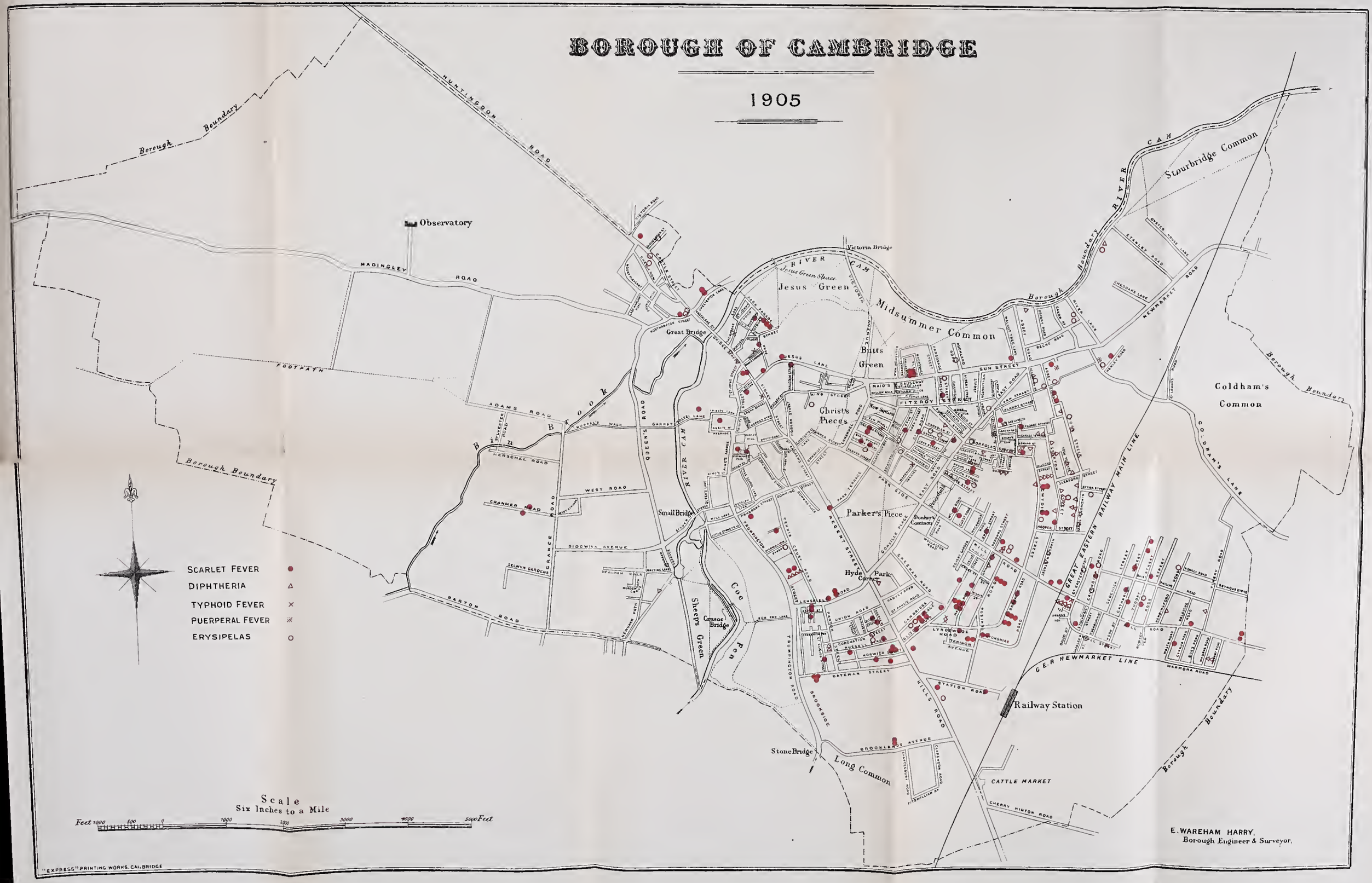
Cambridge District.

Report of the Sanitary Work Completed during the year 1905 by the Inspectors of Nuisances.

INSPECTORS.	No. of Complaints received during the Year.	No. of Houses, Premises, etc. Inspected.	No. of Re-inspections of Houses, Premises, etc.	Results of Inspections		House Drains.			Waterclosets, Majority hand-flushed.			Dung Pits.		Miscellaneous.										
				Orders issued for Sanitary Amendments of Houses and Premises.	Houses, Premises, &c., Cleansed, Repaired, Whitewashed, &c.	Repaired, Cleansed, Trapped, &c.	Ventilated.	Waste Pipes connected with Drains, &c., abolished.	Repaired, &c.	Supplied with Water.	New provided.	New provided.	Repaired, Covered, &c.	Unwholesome Houses reported.	Overcrowding.	Removal of Accumulations of Dung, Stagnant Water, Animal and other Refuse.	Animals removed, being improperly kept.	Regularly Inspected.							Legal Prod's: *i.e.* Summonses.	Samples of Water taken for Analysis.
																		Bakehouses.	Workshops.	Licensed Cowsheds, 33	Dairies & Milkshops, 89	LicensedSlaughter-h's. 30	Canal Boats.	Caravans.		
1	79	438	727	132	23	289	151	58	166	52	..	2	..	2	2	35	28	..	..	247	..	151	10	152	1	3
2	112	399	446	223	39	148	104	35	141	15	6	1	..	7	8	21	..	44	241	214	133	136	..	55	..	8
3	..	625	3125	537	500	563	443	119	467	35	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Totals	191	1462	4298	892	562	1000	698	212	774	102	9	3	..	10	10	56	28	44	241	461	133	287	10	207	1	11

BOROUGH OF CAMBRIDGE

1905



E. WAREHAM HARRY,
Borough Engineer & Surveyor.

"EXPRESS" PRINTING WORKS, CAMBRIDGE

Borough of Cambridge.

(Urban Sanitary Authority).

PUBLIC HEALTH DEPARTMENT,

GUILDHALL, CAMBRIDGE,

April 17th, 1905.

I beg leave to present to the Council a report of a more extended character than was possible to make to the Public Health Committee at its meeting on 31st March, on an outbreak of Scarlet Fever, which invaded not only the Borough, but the adjacent districts of Chesterton Urban and Chesterton Rural respectively, and prevailed from March 20 to March 31.

The nearly simultaneous incidence of the disease between March 23 and 26, upon a number of persons, mostly undergraduates of one college, led me to search for some circumstance common to them all, such as social intercourse, including common place of assemblage, laundry, and milk supply. Investigation into these circumstances quickly led to the abandonment of the first two possible causes, and to special concentration of enquiry into milk convection, as the source of supply was found to be the only circumstance common to all the cases.

This line of investigation was at first, however, somewhat discounted by the fact that, as the implicated dairy supplied milk to a relatively large proportion of households as compared with other dairies, it was not unlikely that a large number of the customers of this particular dairy would be found to be suffering from a common disease not referable to milk, but the suspicion with regard to this particular dairy was strengthened by the fact that further cases notified also obtained their milk from this dairy to the exclusion of all other dairies. This fact seemed to imply that if milk was the source of infection some special circumstance connected with milk production at this dairy must have occurred during the week antecedent to the beginning of the outbreak.

Under these circumstances I thought it desirable to proceed under the provisions of Section 4 of the Infectious Disease (Prevention) Act, 1890 ; accordingly, provided with this statutory authority, I first directed my attention to the implicated dairy, where all necessary information was afforded me by the proprietor as to his methods of business. Among other lines of investigation I examined all the persons employed in the business and their families in order to discover any unsuspected case of the disease. I also took with me a Veterinary Surgeon to examine the cows. The results of these examinations exonerated the home supply from any participation in the spread of the disease.

In consequence of the above results I enquired into any other accidental circumstance attaching to the milk supply, and learnt that the proprietor on several occasions antecedent to the outbreak had obtained a supplementary supply from a milk

purveyor in the country. Consequently, under the same statutory authority, I visited the purveyor in question and found that he was not a cow-keeper, but obtained his supply for distribution from fifteen different sources, the names of which he gave me. In order to discover which of the fifteen was the probable source of supply to the Cambridge firm, I made further enquiries, and the information obtained seemed to point particularly to one of these, and a comparison of dates and quantities seemed to confirm th's opinion. Whereupon I visited this place and adopted the same method of procedure and made similar investigations as in the former cases, and elicited that two seventeen-gallon churns from this particular source had been sent by the purveyor above-mentioned to London, and to Cambridge on particular dates, and the dates on which the milk was sent and the quantities of milk supplied were verified by the information already obtained ; in this way I was able to eliminate all other sources of supply to the Cambridge dairy-man. From further sources of information I had already learnt that a milker employed at this place had visited relatives at a village in the county where it was stated Scarlet Fever had been present six or eight weeks previously, and also that he had suffered from sore throat, as also had his child, who did not attend the village school. I mention this latter fact because there were no cases, so far as I could ascertain, among the children of the village. I accordingly asked permission, which was granted, to examine these persons, with a result that the man's hands and feet were found in a condition consistent with the latter stage of a scarlatinal attack ; the child also gave similar indications. Enquiry with

regard to the relatives visited by the milker failed on account of lapse of time to elicit any sufficiently reliable information on which to base any definite opinion as to their having suffered from Scarlet Fever.

In confirmation of the theory that the country milk was the operating cause of the disease, it is interesting to note that the milk from the Cambridge dairy concerned was distributed by four carts about the town, two of which also delivered milk into the surrounding districts referred to above. Three of the carts, including the two previously mentioned, were each supplied with a portion of the country milk, and on all these three rounds cases of Scarlet Fever have occurred, whereas, on the fourth round which was limited to the town, where only home milk was delivered, only one case occurred, and there is reason to believe that this exceptional case was also connected with the country milk, because the man in charge of this cart, on a certain date consistent with the onset of the disease in this case, borrowed a small quantity of milk from one of the other carts.

Another circumstance which is worth recording is that from March 23 up to the date of this report only four cases of Scarlet Fever have been notified among persons who do not obtain their milk from the implicated dairy, and it is significant that one of these was a youth lodging in Cambridge, who had been associated and worked with a relative of the milker above referred to; although the presence of Scarlet Fever among the members of that family could not, as stated above, be ascertained with certainty, no other possible source than this could be discovered.

Furthermore it has come to my knowledge that on March 20 a visitor to the town for the day had some of the implicated milk and developed the disease a few days later, and there was no other source of infection traceable in this case ; also that five residents in the town who had gone on a visit to several distant places developed Scarlet Fever within a week after arrival at their several destinations. As these persons were supplied with milk from the implicated dairy it is fair to assume that they must have incepted the disease from this source just before leaving Cambridge.

The number of cases notified and the households assailed are as follows :—

	Cases.	*Households.*
Cambridge	56 ...	41
Chesterton Urban ...	18 ...	16
Chesterton Rural ...	4 ...	2
	78 ...	59

The onset of the disease of multiple cases in households, with one exception, was so nearly concurrent in time as to indicate the simultaneous inception of the infective material, which affords an additional proof of milk convection.

On my representation the Cambridge dairyman at once gave up the distribution of any milk other than that of his own cows, and since that time no cases attributable to his milk supply have occurred.

In view of the circumstance that many of the cases were ill-defined and all were of an extremely mild character the notification of some of them was in consequence somewhat delayed ; I have therefore

adopted the probable date of the onset of the disease, rather than the date of notification, as a basis of my remarks above and in the table set out below.

The following table shows the dates of onset of the disease, and the age and sex distribution.

A sketch map of the town and neighbourhood, showing the street distribution of the milk and the positions of the households assailed, is appended hereto.

BUSHELL ANNINGSON,

Medical Officer of Health.

Date of Onset.	Total No. of Cases.	Males.								Females.							
		0—1	1—5	5—10	10—15	15—25	25—35	35 and upwards.	Total.	0—1	1—5	5—10	10—15	15—25	25—35	35 and upwards.	Total.
March 20....	1	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—
,, 21....	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1
,, 22....	5	—	—	2	—	—	—	1	3	—	—	—	—	1	1	—	2
,, 23....	8	—	—	2	—	4	—	—	6	—	1	1	—	—	—	—	2
,, 24....	9	—	1	1	1	3	1	—	7	—	—	—	2	—	—	—	2
,, 25....	14	—	2	4	1	2	—	—	9	—	—	1	1	3	—	—	5
,, 26....	9	—	1	1	—	—	—	3	5	—	—	—	2	1	—	1	4
,, 27....	10	—	1	1	—	1	—	—	3	—	1	—	2	1	2	1	7
,, 28....	9	—	—	—	—	2	—	—	2	—	—	2	—	5	—	—	7
,, 29....	5	—	—	—	2	—	1	—	3	—	1	—	—	—	—	1	2
,, 30....	3	—	1	—	—	—	—	—	1	—	1	1	—	—	—	—	2
,, 31....	3	—	—	—	—	1	—	—	1	—	—	2	—	—	—	—	2
April 1....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
,, 2....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
,, 3....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
,, 4....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
,, 5....	1	—	—	1*	—	—	—	—	1	—	—	—	—	—	—	—	—
Total	78	—	6	12	4	13	3	4	42	—	4	7	7	12	3	3	36

* The only secondary case.

Scarlet Fever Outbreak —— March 1905.

Sketch Map shewing the Street distribution of the Milk and the positions of the Households assailed.

Sketch Map shewing the Street distribution of the Milk and the positions of the Households assailed.